Data Communications

Federal Aviation Administration

Data Communications

In today's national airspace system, air traffic control depends on voice communications to relay a wide array of critical information between air crews and controllers. The use of voice communication is labor intensive and limits the FAA's ability to effectively meet future traffic demand.

The Data Communications program will provide comprehensive data connectivity, including ground automation message generation and receipt, message routing and transmission, and aircraft avionics requirements. Data communications will automate repetitive tasks, replace voice communications with less workload-intensive data communications, and enable ground systems to use real-time aircraft data to improve traffic management efficiency. Initially, data communications will be a supplemental means for two-way exchange between controllers and flight crews for air traffic control clearances, instructions, advisories, flight crew requests and reports. Eventually, as data communications become the norm, the majority of air/ground exchanges will be handled by data communications for appropriately equipped users. Automated data communications will support the Next Generation Air Transportation System (NextGen) vision by enabling air traffic control to issue an entire route of flight with a single data transmission directly to pilots and their aircraft's flight management system.

Data communications are at the heart of NextGen advanced airspace management concepts. The operations and services enabled by data communications will allow air traffic controllers to enhance safety, strategically manage the airspace, and meet traffic demand while constraining operational and life-cycle costs.